What is claimed is:

1. An apparatus for dynamically controlling the delivery of data over a network, the apparatus comprising:

a network interface circuit with at least one communication port adapted to be coupled to a network;

an encoder, communicatively coupled to the network interface circuit, the encoder adapted to receive data from a source and to encode the data with a selectable level of compression; and

wherein the network interface circuit includes a control mechanism that provides a signal to select the level of compression for the encoder based on at least one parameter.

2. The apparatus of claim 1, wherein the encoder is adapted to receive data from at least one of a video source, and an audio source.

3. The apparatus of claim 1, wherein the network interface circuit further is adapted to receive at least one of high-speed data and telephony data.

4. The apparatus of claim 1, wherein the encoder comprises an encoder that is adapted to receive input from a plurality of data sources.

5. The apparatus of claim 1, wherein the network interface circuit comprises an inverse multiplexer (IMUX) with a plurality of network ports, each network port adapted to be coupled to a selected communication link of the network.

6. The apparatus of claim 5, wherein each port is adapted to be coupled to at least one of a T1 and an E1 communication link.

7. The apparatus of claim 1, and further comprising a bus, communicatively coupling the network interface circuit and the encoder, the bus being adapted to carry commands from the control mechanism of the network interface circuit to the encoder.

8. The apparatus of claim 1, wherein the control mechanism generates signals to control the rate of the encoder based on at least one of available bandwidth, buffer levels, network congestion, cell loss and signals over an end-to-end channel of the network.

9. The apparatus of claim 1, wherein the control mechanism adjusts data rates for a plurality of sources pro rata based on the at least one parameter.

10. The apparatus of claim 1, wherein the control mechanism selectively and independently adjusts data rates for a plurality sources.

11. The apparatus of claim 1, wherein the control mechanism adjusts the data rate of the encoder to control the level of compression.

12. The apparatus of claim 1, wherein the control mechanism further adjusts other parameters of the encoder based on the at least one parameter.

13. A method for reducing a loss in transmission quality with changing network conditions, the method comprising:

receiving data form a source;

encoding the data with a first rate;

detecting a changed condition; and

adjusting the level of encoding to respond to the changed condition.

14. The method of claim 13, wherein receiving data from a source comprises

receiving video data from a video source.

15. The method of claim 13, wherein receiving data from a source comprises receiving data from a plurality of sources.

16. The method of claim 13, wherein encoding the data comprises encoding the data with an MPEG encoder.

17. The method of claim 13, wherein detecting a changed condition comprises detecting a loss of at least one of a plurality of communication links between access device of a communication network.

18. The method of claim 13, wherein detecting a changed condition comprises monitoring a congestion bit of the network.

19. The method of claim 13, wherein detecting a changed to condition comprises monitoring statistics on cell loss, cyclic redundancy check at the ATM layer, and cyclic redundancy check at the MPEG layer.

20. The method of claim 13, wherein detecting a changed condition comprises monitoring buffer conditions in an access device of a communication network.

21. The method of claim 13, wherein detecting a changed condition comprises monitoring data rates from a plurality of data sources.

22. The method of claim 13, wherein adjusting the level of encoding comprises adjusting a data rate for an encoder based on the changed condition.

23. The method of claim 13, wherein:

detecting the changed condition comprises detecting a loss of one of at least one of a plurality of communication links between a network and an access device; and

adjusting the level of encoding comprises reducing a data rate for an encoder based on the detected loss of at least one of the crowded communication links.

24. A method for controlling delivery of video over an asynchronous transfer mode (ATM) network, the method comprising:

establishing a first encoding level for a video encoder;

receiving video data from at least one video source;

encoding the video data with the first encoding level;

transmitting the encoded video data over a plurality of communication lines to the ATM network via an inverse multiplexer; and

when at least one of the plurality of communication lines becomes unusable, modifying the encoding level to encode with a second, different rate.

25. The method of claim 24, wherein establishing a first encoding level comprises establishing a data rate for an MPEG encoder.

26. The method of claim 24, wherein receiving video data comprises receiving video data from a plurality of video sources.

27. The method of claim 24, wherein transmitting the encoded video data over a plurality of communication lines comprises transmitting the encoded video data over a plurality of T1 or E1 lines.

28. The method of claim 24, wherein modifying the encoding level comprises reducing the data rate.

29. A method for controlling delivery of video over an asynchronous transfer mode

(ATM) network, the method comprising:

monitoring a plurality of connections to the ATM network used to transmit video data from at least one source;

when synchronizing the plurality of connections to the ATM network:

calculating an available bandwidth for delivering the video data; and

establishing a data rate for a video encoder used to deliver the video data based on the available bandwidth.

30. The method of claim 29, and further comprising:

when at least one of the plurality of connections becomes unusable:

calculating an available bandwidth for delivering the video data; and

establishing a second, different data rate for a video encoder used to deliver the video data based on the currently available bandwidth.

31. The method of claim 29, wherein calculating the available bandwidth comprises:

determining physical bandwidth; and

adjusting bandwidth for sources not processed by the video encoder.

32. An access device, comprising:

a network interface circuit having a plurality of network ports adapted to couple to a plurality of communication lines for an asynchronous transfer mode (ATM) network, a data port adapted to couple to at least one data source, and at least one telephony port adapted to couple to at least one telephony line;

an encoder, communicatively coupled to the network interface circuit, that is adapted to receive data from at least one audio/video source; and

a control mechanism, communicatively coupled with the network interface circuit and the encoder, the control mechanism producing at least one control signal to control the rate of the encoder based on a condition of the ATM network.

33. The access device of claim 32, wherein the network interface circuit, the encoder and the control mechanism are located in a common housing.

34. The access device of claim 32, wherein the encoder and the control mechanism are communicatively coupled over a bus.

35. The access device of claim 32, wherein the encoder comprises an MPEG encoder.

36. The access device of claim 32, wherein the network interface circuit includes an inverse multiplexer circuit.

37. The access device of claim 36, wherein the control mechanism reduces the rate of the encoder when one of the plurality of connections to the ATM network is unusable.

38. An access device, comprising:

an inverse multiplexer having a plurality of network ports adapted to couple to a plurality of communication lines for an asynchronous transfer mode (ATM) network;

an encoder, communicatively coupled to the inverse multiplexer, that is adapted to receive data from at least one audio/video source;

a control mechanism, communicatively coupled with the inverse multiplexer and the encoder, the control mechanism producing at least one control signal to control the rate of the encoder based on a condition of the ATM network; and

wherein the encoder, the control mechanism, and the inverse multiplexer are located in a common housing.

39. The access device of claim 38, wherein the inverse multiplexer includes a data port adapted to couple to at least one data source, and at least one telephony port

adapted to couple to at least one telephony line.

40. The access device of claim 38, wherein the encoder and the control mechanism are communicatively coupled over a bus.

41. The access device of claim 38, wherein the encoder comprises an MPEG encoder.

42. The access device of claim 38, wherein the control mechanism reduces the rate of the encoder when one of the plurality of connections to the ATM network is unusable.

43. A method for reducing loss of transmission quality with changing network conditions, the method comprising:

receiving data form a source;

encoding the data with a first rate;

monitoring a condition;

when the condition exceeds a threshold, adjusting the level of encoding to respond to the changed condition.

44. The method of claim 43, wherein adjusting the level comprises adjusting the level until the quality of the transmission is acceptable.

45. The method of claim 43, wherein monitoring a condition comprises monitoring at least one of a buffer level, statistics on cell loss, cyclic redundancy check at the ATM layer, and cyclic redundancy check at the MPEG layer.

46. The method of claim 43, wherein adjusting the level comprises:

adjusting the level;

determining whether the condition improves to an acceptable level; and

when the condition does not improve to an acceptable level, further adjusting the level.

47. A method for reducing loss of transmission quality with changing network conditions, the method comprising:

receiving data form a source;

encoding the data with a first rate;

monitoring a network congestion bit;

when the network congestion bit indicates network congestion, reducing the level of encoding; and

when the network congestion is reset for a period of time, increasing the level of encoding.

48. A distance learning system, comprising:

a plurality of access devices coupled together over a transport network;

a plurality of data sources and sinks, each data source and each data sink coupled to one of the access devices; and

wherein each access device comprises:

a network interface circuit with at least one communication port adapted to be coupled to the transport network;

an encoder, communicatively coupled to the network interface circuit, the encoder adapted to receive data from a source and to encode the data with a selectable level of compression; and

wherein the network interface circuit includes a control mechanism that provides a signal to select the level of compression for the encoder based on at least one parameter.

49. The distance learning system of claim 48, wherein the plurality of data sources

and data sinks includes one or more of a telephone, a monitor, a camera, a computer, and a computer network.